

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims

1. (Previously Presented) A vehicle lamp for emitting light and forming a predetermined light distribution pattern, comprising:

a plurality of light sources;

a plurality of corresponding reflective surfaces, wherein each of said light sources includes at least one LED array with LED chips arranged in a row, and each of said reflective surfaces is arranged in combination with one of said light sources to generate light beams each having a certain light distribution pattern, the light sources and reflective surfaces configured such that each of the light beams having a certain light distribution pattern are superimposed with each other to form said predetermined light distribution pattern; and

a light source holder shaped in a substantially polygonal form having sides and a longitudinal axis in a direction that is substantially parallel with an optical axis of said lamp, wherein a first side includes at least a first LED array with the LED chips arranged in a row that extends substantially parallel to the optical axis and a second side includes at least a second LED array with the LED chips arranged in a row that extends substantially perpendicular to the optical axis.

2. (Previously presented) The vehicle lamp according to claim 1, wherein each side of said light source holder has one of said at least one LED array arranged thereon and wherein said reflective surfaces are located such that they surround said light source holder.

3. (Previously presented) The vehicle lamp according to claim 1, wherein each side of the light source holder has one of said at least one LED array arranged thereon, and wherein the at least one LED array is arranged in a row direction such that a projected image of a light distribution pattern formed by light reflected from a corresponding one of said reflective surfaces has a longitudinal axis in a direction substantially perpendicular to the optical axis.

4. (Original) The vehicle lamp according to claim 1, further comprising:
a shade configured to block a part of light emitted from one of said light sources and arranged in the vicinity of said one of said light sources and in an optical path extending from said one of said light sources to one of said reflective surfaces to form the predetermined light distribution pattern.

5. (Previously Presented) A vehicle lamp for emitting light and forming a predetermined light distribution pattern, comprising:
a plurality of light sources;
a plurality of corresponding reflective surfaces, wherein each of said light sources includes at least one LED array with LED chips arranged in a row, and each of said reflective surfaces is arranged in combination with one of said light sources to generate light beams each having a certain light distribution pattern, the light sources and reflective surfaces configured such that each of the light beams having a certain light distribution pattern are superimposed with each other to form said predetermined light distribution pattern;

a light source holder shaped in a substantially polygonal form having sides and a longitudinal axis in a direction that is substantially parallel with an optical axis of said lamp, wherein at least two of the sides each includes at least one of said plurality of light sources; and

a shade located in a lateral direction from the light source holder, the shade having the shape of a plate and having a longitudinal axis and the longitudinal axis forming an angle between 0° and 90° with respect to the optical axis of the lamp and the shade being located between at least one of the plurality of light sources and a projection lens, and wherein each reflective surface has a first focal point at a corresponding LED array and a second focal point in the vicinity of a focus of the projection lens.

6. Cancelled.

7. (Original) The vehicle lamp according to claim 1, wherein said vehicle lamp is configured such that one of a number and a position of said LED chips to be turned on in each LED array or between LED arrays can be varied such that said predetermined light distribution pattern can be varied.

8. (Previously Presented) The vehicle lamp according to claim 1, wherein one of, said LED array and one of said LED chips, is tilted with respect to an optical axis of the lamp so as to direct light to one of said reflective surfaces.

9. (Original) The vehicle lamp according to claim 2, further comprising:

a shade configured to block a part of light emitted from one of said light sources and arranged in the vicinity of said one of said light sources and in an optical path extending

from said one of said light sources to one of said reflective surfaces to form the predetermined light distribution pattern.

10. (Original) The vehicle lamp according to claim 3, further comprising:

a shade configured to block a part of light emitted from one of said light sources and arranged in the vicinity of said one of said light sources and in an optical path extending from said one of said light sources to one of said reflective surfaces to form the predetermined light distribution pattern.

11. (Original) The vehicle lamp according to claim 2, wherein at least one of said LED arrays includes a cylindrical lens having a longitudinal axis in a row direction of said at least one LED array.

12. (Previously Presented) The vehicle lamp according to claim 3, wherein at least one of said LED arrays includes a cylindrical lens having a longitudinal axis in a row direction of said at least one of said LED arrays.

13. (Original) The vehicle lamp according to claim 4, wherein at least one of said LED arrays includes a cylindrical lens having a longitudinal axis in a row direction of said at least one of said LED arrays.

14. (Original) The vehicle lamp according to claim 5, wherein at least one of said LED arrays includes a cylindrical lens having a longitudinal axis in a row direction of said at least one of said LED arrays.

15. (Original) The vehicle lamp according to claim 2, wherein said vehicle lamp is configured such that one of a number and a position of said LED chips to be turned on in each LED array or between LED arrays can be varied such that said predetermined light distribution pattern can be varied.

16. (Original) The vehicle lamp according to claim 3, wherein said vehicle lamp is configured such that one of a number and a position of said LED chips to be turned on in each LED array or between LED arrays can be varied such that said predetermined light distribution pattern can be varied.

17. (Original) The vehicle lamp according to claim 4, wherein said vehicle lamp is configured such that one of a number and a position of said LED chips to be turned on in each LED array or between LED arrays can be varied such that said predetermined light distribution pattern can be varied.

18. (Original) The vehicle lamp according to claim 5, wherein said vehicle lamp is configured such that one of a number and a position of said LED chips to be turned on in each LED array or between LED arrays can be varied such that said predetermined light distribution pattern can be varied.

19. Cancelled.

20. (Previously Presented) The vehicle lamp according to claim 2, wherein one of, said LED array and one of said LED chips, is tilted with respect to an optical axis of the lamp so as to direct light to one of said reflective surfaces.

21. (Previously Presented) The vehicle lamp according to claim 3, wherein one of, said LED array and one of said LED chips, is tilted with respect to an optical axis of the lamp so as to direct light to one of said reflective surfaces.

22. (Previously Presented) The vehicle lamp according to claim 4, wherein one of, said LED array and one of said LED chips, is tilted with respect to an optical axis of the lamp so as to direct light to one of said reflective surfaces.

23. (Previously Presented) The vehicle lamp according to claim 5, wherein one of, said LED array and one of said LED chips, is tilted with respect to an optical axis of the lamp so as to direct light to one of said reflective surfaces.

24. Cancelled.

25. (Previously Presented) The vehicle lamp according to claim 7, wherein one of, said LED array and one of said LED chips, is tilted with respect to an optical axis of the lamp so as to direct light to one of said reflective surfaces.

26. (Previously Presented) An LED type lamp, comprising:

a light source including at least three LED arrays, each LED array including a row of LED chips formed thereon, wherein at least one row of LED chips extends substantially perpendicular to an optical axis of the LED type lamp, wherein at least one of the at least three LED arrays is capable of being tilted backward individually to reduce the depth of the reflective surface and wherein light emitted from the at least three LED arrays is substantially perpendicular to the optical axis of the LED type lamp;

at least three reflector surfaces located adjacent said at least three LED arrays, respectively, each of said reflector surfaces being configured to direct light emitted from one of said at least three LED arrays into a certain light distribution pattern such that the at least three reflector surfaces produce a plurality of certain light distribution patterns, and said plurality of certain light distribution patterns combine to form a predetermined light distribution pattern.

27. (Previously Presented) The LED type lamp of claim 26, further comprising:

a light source holder located adjacent said at least three reflectors and having a plurality of sides extending in a direction parallel to an optical axis of the LED type lamp, wherein at least one of said at least three LED arrays is located adjacent at least one of said plurality of sides.

28. (Previously Presented) An LED type lamp having an optical axis along which a light beam can be emitted, comprising:

a plurality of light sources including at least one row of LED chips;

a reflector located adjacent the light sources; and

a light source holder including at least three surfaces that each extend substantially parallel to the optical axis of the LED type lamp, the at least three surfaces

extending away from a back surface of the reflector, wherein the at least one row of LED chips is arranged substantially perpendicular to the optical axis along one of the at least three surfaces and wherein light emitted from the at least one row of LED chips is emitted along a direction substantially perpendicular to the optical axis of the LED type lamp, and wherein at least one row of LED chips is offset from an adjacent row of LED chips in a longitudinal direction with respect to each other.

29. Cancelled.

30. (Previously Presented) The LED type lamp of claim 28, wherein each of the light sources includes a plurality of LED chips and the at least three surfaces extend along the optical axis of the lamp, each of said surfaces including at least one of said plurality of LED chips located thereon, and said reflector including a plurality of different shaped reflective surfaces each corresponding to a different one of said surfaces of said light source holder.